

PROCESS FOR PRODUCING MATERIALS
REINFORCED WITH NANOPARTICLES AND
ARTICLES FORMED THEREBY

ABSTRACT OF THE DISCLOSURE

[0019] A method for forming a dispersion-strengthened material containing nanoparticles that are uniformly dispersed in a matrix phase. The method includes adding nanoparticles and a molten material to a container to form a pool within the container and rotating the container to create a convection vortex in the pool. The convection vortex is sufficient to cause the nanoparticles to be incorporated into the molten material so as to yield a molten composite material, and further causes the molten composite material to be ejected from the container. The molten composite material is then cooled to form a solid composite body comprising a uniform dispersion of the nanoparticles.